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EPR of Gd3+ ion in mixed CeO2-Y2O3 nanocrystals

Aminov L., Kurkin I., Rakhmatullin R., Böttcher R., Pöppl A., Sen S.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

This paper reports on the results of EPR studies of mixed CeO2-Y2O3 crystals (including nano-sized crystals) doped by gadolinium ions. It is revealed that the width of the line corresponding to the allowed transition 1/2 ↔ -1/2 between the Kramers-conjugated states {divides}±1/2 of the Gd3+ ion decreases with a decrease in the powder size from macrosizes to nanosizes. The observed dependence can be due to the increase in the unit cell size during grinding of the samples. © Pleiades Publishing, Ltd., 2009.

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